

Work Order ID 86054

86054

Page 1

June-20-12 9:15:50 AM

Item ID: D3488-042

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Blade Fitting Assembly, RH

Start Date: 20/06/2012 Start Qty: 12.00

12

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan: *MLT*

Date: *12/06/20* Tooling:

Date:

Run Start ***NR1***

QC:

Date: SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

Draw Nbr

Revision Nbr

D3488

Rev B

100

0.00

100

DOOSAN LATHE

Doosan

Memo

0.00

Doosan Lathe

1-Turn as per Dwg DSK 101 & Folio FA6272-Deburr

SA 12/6/24

12

110

0.00

110

QC2- Inspect parts off machine FAI/FAIB

QC

Memo

0.00

Quality Control

SA 12/6/24

12

120

0.00

120

HAAS CNC VERTICAL MACHINING #1

HAAS 1

Memo

0.00

HAAS CNC vertical machine #1

1-Machine as per Folio FA627 & Dwg D34882-Deburr

RT 12-06-24 (x12)

Work Order ID 86054

June-20-12 9:15:50 AM

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Item ID: D3488-042

Accept

N900040100

Setup Start ***NS1***

Revision ID:

Stop ***NS2***

Item Name: Blade Fitting Assembly, RH

Start Date: 20/06/2012 Start Qty: 12.00

12

Cust Item ID:

Required Date: 27/06/2012 Req'd Qty: 12.00

12

Customer:

Reference:

Approvals: Process Plan:

Date:

Tooling:

Date:

Run Start ***NR1***

QC:

Date:

SPC (Y/N):

Date:

Stop ***NR2***

Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Tool ID Tool # Plan
Code Accept Reject Reject Insp.
Qty Qty Number Stamp

130

QC2- Inspect parts off machine FAI/FAIB

0.00

130

QC

Memo

0.00

Quality Control

ET 12-06-24 7/12

140

QC8- Inspect parts - second check

0.00

140

QC

Memo

0.00

Quality Control

SA 12/06/27

12 0

150

Chemical Conversion Coat per QSI005 4.1

0.00

150

HandFinish

Memo

0.00

Hand Finishing

12 26/12-27

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86054

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June-20-12 9:15:50 AM

Item ID: D3488-042
Revision ID:
Item Name: Blade Fitting Assembly, RH

Accept

N900040100

Setup Start ***NS1***
Stop ***NS2***

Start Date: 20/06/2012 Start Qty: 12.00 ***12***
Required Date: 27/06/2012 Req'd Qty: 12.00 ***12***

Cust Item ID:
Customer:

Reference:

Approvals: Process Plan: Date: Tooling: Date:
QC: Date: SPC (Y/N): Date:

Run Start ***NR1***
Stop ***NR2***

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
--------------------------------	--------------------------	----------------------	---------	--------	--------------	---------------	---------------	------------------	----------------

160 White Gloss(Ref:4.3.5.1) per QSI005 4.3-Alum 0.00

160

Powdercoat

Powder Coating

Memo

START TIME:

FINISH TIME:

0.00

OVEN TEMPERATURE:

12X ~~φ~~

M-F
12/07/04

170 QC3- Inspect Part Finish 0.00

170

QC

Quality Control

Memo

0.00

12x ~~φ~~ All 12/07/04

180 HandFinishing 0.00

180

HandFinish

Hand Finishing

HandFinishing

Memo

Install Inserts as per Dwg D3488

0.00

12x ~~φ~~ All 12/07/04

Picklist Print

June-20-12 9:15:54 AM

Page 1

Work Order ID: 86054

86054

Parent Item: D3488-042

D3488-042

Parent Item Name: Blade Fitting Assembly, RH

Start Date: 20/06/2012

Required Date: 27/06/2012

Start Qty: 12.00

Required Qty: 12.00

Comments: IPP Rev:A New Issue 06-02-28 JLM
IPP Rev:B As per Rev B 06-03-30 JLM
IPP Rev:C Now On Doosan Lathe JLM Verified BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
ALS7-1032-225		Purchased			No		Each	1,075.000		48			

AI S7-1032-225
INSERT

**

12/6/20

Location

Loc Qty

Loc Code

ST282

1075

11122290

✓ 10

100896

135

111529

27

118520

913

D6103-003

Manufactured No

Each

38.0000

12

D6103-003

**

5/12/6/20

Round Billet, Aluminum

Location

Loc Qty

Loc Code

MAT043

38

76982

2

82262

3

83408

33

1

11

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

DQA: _____ Date: _____

QA Closed: _____ Date: _____

Work Order: _____ Part No. _____ NCR No. _____	DISPOSITION Rework <input type="checkbox"/> Scrap <input type="checkbox"/> Use-as-is <input type="checkbox"/> Work Order Update <input type="checkbox"/>	AGAINST DEPARTMENT/PROCESS <table style="width: 100%;"> <tr> <td>Skid-tube <input type="checkbox"/></td> <td>Crosstube <input type="checkbox"/></td> <td>Prod. Eng. Coord. <input type="checkbox"/></td> <td>Engineering <input type="checkbox"/></td> </tr> <tr> <td>Machining <input type="checkbox"/></td> <td>Small Fab <input type="checkbox"/></td> <td>Rec/Store/Packaging <input type="checkbox"/></td> <td>Quality <input type="checkbox"/></td> </tr> <tr> <td>Thermoforming <input type="checkbox"/></td> <td>Finishing <input type="checkbox"/></td> <td>Supplier <input type="checkbox"/></td> <td></td> </tr> <tr> <td>Large Fab <input type="checkbox"/></td> <td>Composite <input type="checkbox"/></td> <td>Other <input type="checkbox"/></td> <td></td> </tr> </table>	Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>	Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>	Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>		Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>	
Skid-tube <input type="checkbox"/>	Crosstube <input type="checkbox"/>	Prod. Eng. Coord. <input type="checkbox"/>	Engineering <input type="checkbox"/>															
Machining <input type="checkbox"/>	Small Fab <input type="checkbox"/>	Rec/Store/Packaging <input type="checkbox"/>	Quality <input type="checkbox"/>															
Thermoforming <input type="checkbox"/>	Finishing <input type="checkbox"/>	Supplier <input type="checkbox"/>																
Large Fab <input type="checkbox"/>	Composite <input type="checkbox"/>	Other <input type="checkbox"/>																

Root Cause	Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data <input type="checkbox"/>									
Equip/Tooling <input type="checkbox"/>									
Operator <input type="checkbox"/>									
Material <input type="checkbox"/>									
Offset/Setup <input type="checkbox"/>									
Other <input type="checkbox"/>									
Process <input type="checkbox"/>									
Supplier <input type="checkbox"/>									
Training <input type="checkbox"/>									
Unauthorized <input type="checkbox"/>									

FAULT CATEGORY

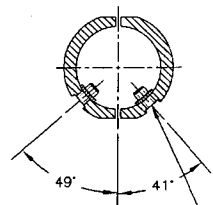
Landing Gear	Hardware	General	
<input type="checkbox"/> Bending Passes Below Min <input type="checkbox"/> Centre Not Concentric to O/S <input type="checkbox"/> Cracks <input type="checkbox"/> Crushed/Crimp at Bending <input type="checkbox"/> Inspection Strip in Tube <input type="checkbox"/> Other <input type="checkbox"/> Positioned Wrong <input type="checkbox"/> Ripples on Inner Bend <input type="checkbox"/> Torque Waves in Extrusion <input type="checkbox"/> Turning Sequence <input type="checkbox"/> Wave/Twist in Tube	<input type="checkbox"/> Breaking <input type="checkbox"/> Missing <input type="checkbox"/> Size/Length <input type="checkbox"/> Spinning <input type="checkbox"/> Threading <input type="checkbox"/> Wrong Drill Holes <input type="checkbox"/> Misaligned <input type="checkbox"/> Ovalized <input type="checkbox"/> Over/Undersized <input type="checkbox"/> Too Many	<input type="checkbox"/> Burrs <input type="checkbox"/> Contamination <input type="checkbox"/> Cut Too Short <input type="checkbox"/> Documentation/Data <input type="checkbox"/> Finish <input type="checkbox"/> Inspection Incomplete <input type="checkbox"/> Inspection Unqualified <input type="checkbox"/> Instructions Incomplete/Unclear <input type="checkbox"/> Jigs/Fixtures/Tooling <input type="checkbox"/> Kit Incorrect <input type="checkbox"/> Kit Missing	<input type="checkbox"/> Maintenance <input type="checkbox"/> Mislabeled <input type="checkbox"/> Off-Set <input type="checkbox"/> Orientation Misread <input type="checkbox"/> Out of Calibration <input type="checkbox"/> Out of Sequence <input type="checkbox"/> Outside Dimensions <input type="checkbox"/> Over/Under tolerance <input type="checkbox"/> Part Lost <input type="checkbox"/> Part Moved <input type="checkbox"/> Raw Material <input type="checkbox"/> Set-up <input type="checkbox"/> Supplier <input type="checkbox"/> Temperature/Cure <input type="checkbox"/> Weld <input type="checkbox"/> Wrong Stock Pulled <input type="checkbox"/> Other

DART AEROSPACE LTD		Work Order: 386054
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2		Part Number: D3488-2
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 2 of 2

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Milling Section						
Ø0.508	+0.006/-0.001	.509	✓		vern 6"	RT-4
0.750	+/-0.010	.7505	✓		"	"
1.500	+/-0.010	1.501	—		"	"
11.18	+/-0.030	11.182	✓		vern 12"	CNC-02
R0.062	+/-0.010	.062	✓		vern 6"	RT 4
0.125	+/-0.010	.120	✓		"	"
0.590	+/-0.010	.5885	✓		height gauge	31006
0.793	+/-0.010	.796	✓		vern	RT-4
1.351	+/-0.010	1.348	—		height gauge	31006
1.317	+/-0.010	1.319	—		vern	RT-4
1.802	+/-0.010	1.805	—		height gauge	RT-6

Measured by: RT	Audited by: D.A	Prototype Approval:	N/A
Date: 12-06-24	Date: 12/06/27	Date:	N/A

Rev	Date	Change	Revised by	Approved
A	06.03.31	New Issue	KJ/JLM	
B	08.09.19	Reformat P/O D3488-042	KJ/JLM	
C	08.12.02	Dimension 8.000 removed	KJ/JLM	



SECTION B-B

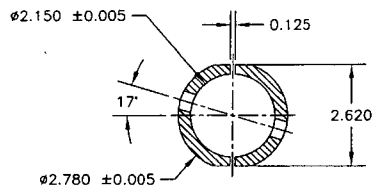
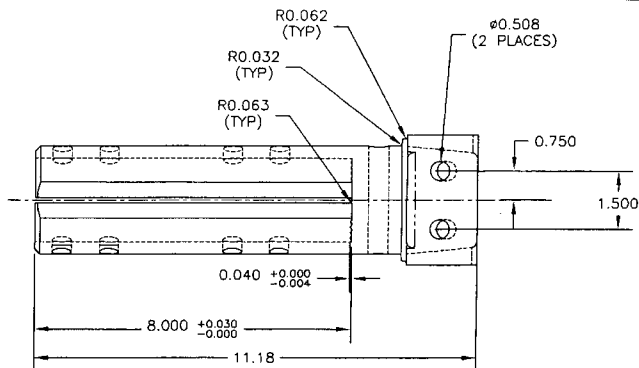
Ø0.297
C'BORE Ø0.430 x 0.100
INSTALL ALS4-1032-225 (OR AKS4-1032-225
OR ALS7-1032-225 OR AKS7-1032-225)
INSERTS AFTER FINISH
(4 PLACES)



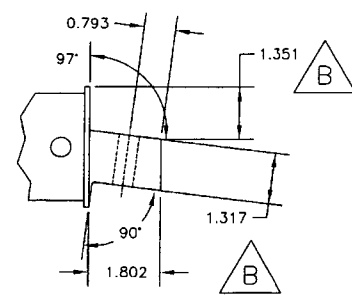
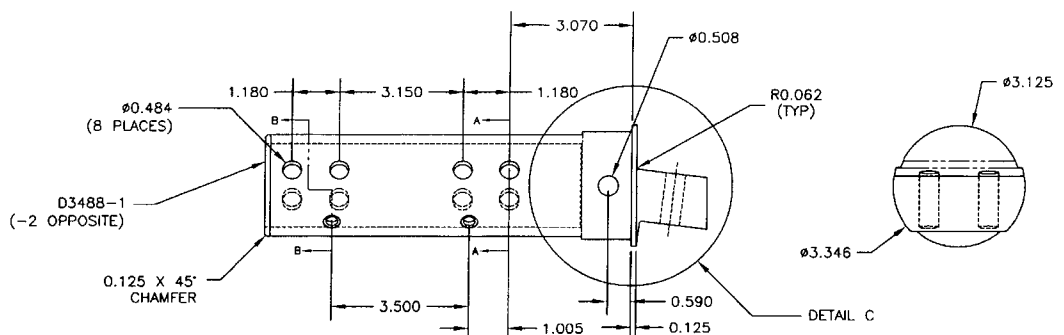
SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER

NO. 26054/MCJ

12/06/20



SECTION A-A



DETAIL C

D3488-041/-042 BLADE FITTING ASSEMBLY PARTS LIST

QTY -041	QTY -042	PART NUMBER	DESCRIPTION
X	X	D3488-041	BLADE FITTING ASSEMBLY (LH)
		D3488-042	BLADE FITTING ASSEMBLY (RH)
1		D3488-1	BLADE FITTING (LH)
		D3488-2	BLADE FITTING (RH)
4	4	ALS4-1032-225 or AKS4-1032-225 or ALS7-1032-225 or AKS7-1032-225	INSERT

D3488-041/-042 BLADE FITTING

- MATERIAL: MAKE D3488-1/-2 FROM ALUMINUM 7075-T7351 ROUND BAR
PER QQ-A-225/9
(REF. DART MATERIAL SPEC M7075T73R)
- FINISH: ACID ETCH, ALODINE PER DART QSI 005 4.1
POWDER COAT WHITE (REF 4.3.5.1) PER DART QSI 005 4.3
- BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- INSTALL INSERTS AFTER POWDER COAT
- ALL DIMENSIONS ARE IN INCHES
- TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

D3488-041 SHOWN (D3488-042 OPPOSITE)

RELEASED
06.03.15
PER DS
EIN #734

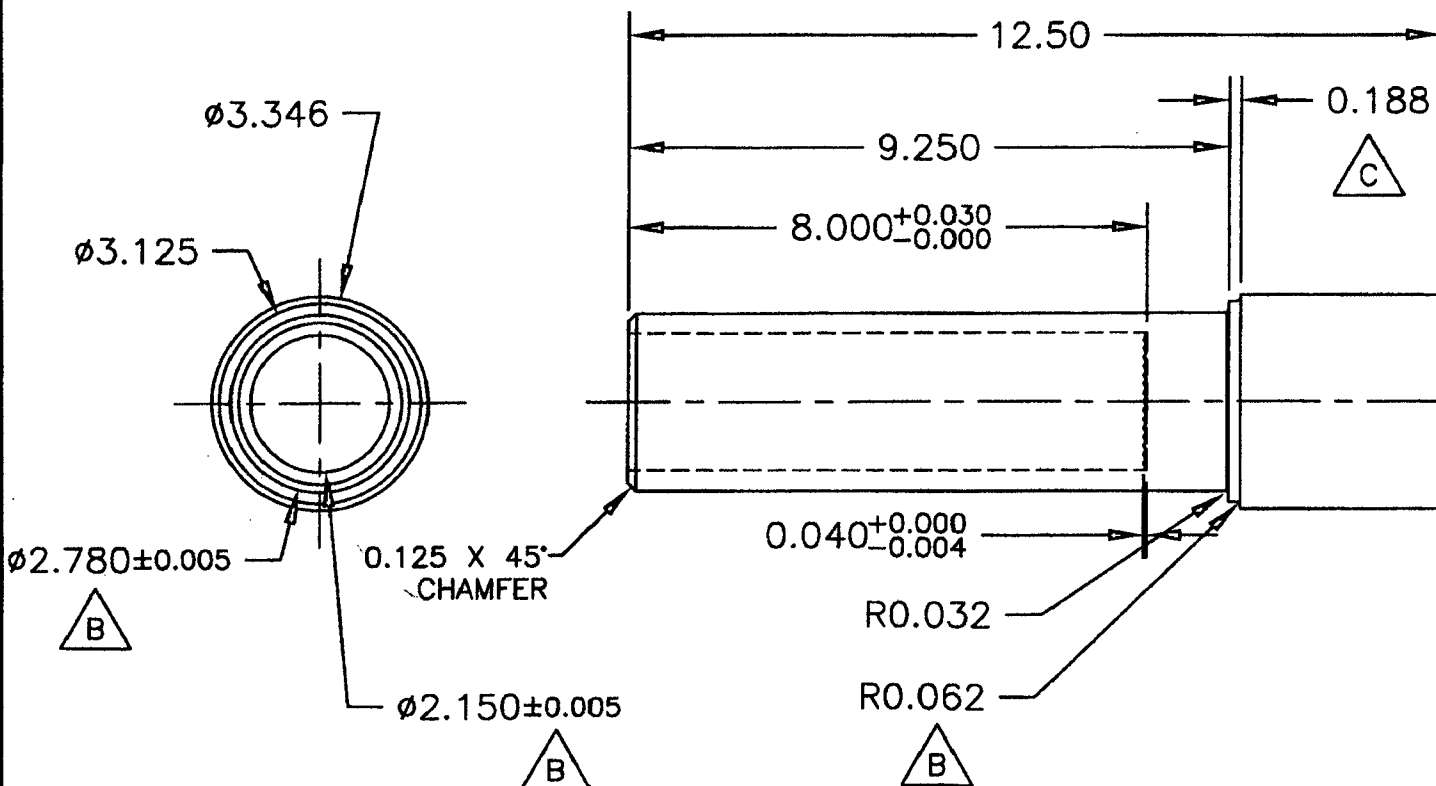
B	06.03.15	CHANGE THICKNESS
A	05.12.20	NEW ISSUE
DESIGN PH	DRAWN BY PH	DART DART AEROSPACE USA, INC. PORT HADLOCK, MA
CHECKED #	APPROVED #	DRAWING NO. D3488
DATE 06.03.15	TITLE BLADE FITTING	REV. B SHEET 1 OF 1 SCALE 1:3

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PERSON WITHOUT WRITTEN PERMISSION FROM
DART AEROSPACE USA, INC.

DART

06.05.09 *W*

DESIGN	DRAWN BY	DART AEROSPACE USA, INC. PORT HADLOCK, WA	
<i>PH</i>	<i>PH</i>	DRAWING NO.	REV. D
CHECKED <i>W</i>	APPROVED <i>W</i>	DSK 101	SHEET 1 OF 1
DATE		TITLE	SCALE
06.05.09		D3488-1/-2 TURNING DETAIL	1:3
A	05.12.21	NEW ISSUE	
B	06.03.02	ADD TOLERANCES AND RADIUS	
C	06.04.17	0.188 WAS 0.125	
D	06.05.09	REMOVE DIAMETER FOR CHAMFER	



DSK 101

- 1) MATERIAL: MAKE FROM ALUMINUM 7075-T7351 ROUND BAR PER QQ-A-225/9 (REF. DART MATERIAL SPEC M7075T73R)
- 2) FINISH: NONE
- 3) BREAK UNMARKED SHARP EDGES 0.010 TO 0.020
- 4) ALL DIMENSIONS ARE IN INCHES
- 5) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED

DART AEROSPACE LTD		Work Order:	
Description: Blade Fitting, RH / Turning Detail for D3488-1/-2		Part Number:	D3488-2
Inspection Dwg: D3488 / DSK101 Rev: B / D		Page 1 of 2	

FIRST ARTICLE INSPECTION CHECKLIST

☒ First Article ☐ Prototype

Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
Lathe Section						
Ø2.150	+/-0.005	2.147	/		SA-S	Ver 12"
Ø2.780	+/-0.005	2.780	/			
Ø3.125	+/-0.010	3.126	/			
Ø3.346	+/-0.010	3.347	/			
0.125 x 45°	+/-0.010 x +/-0.1°	0.12545°	/			
8.000	+0.030/-0.000	8.075	/			
9.250	+/-0.010	9.25	/			
0.188	+/-0.010	.187	/			
R0.032	+/-0.010	R0.032	/		R.G.	
R0.062	+/-0.010	R.060	/		R.G.	
Ø0.297	+0.005/-0.001	.299	/			
Ø0.430	+/-0.010	.430	/			
0.100	+/-0.010	.100	/			
0.125	+/-0.010	.130	/			
2.620	+/-0.010	2.619	/			
3.500	+/-0.010	3.500	/			
1.005	+/-0.010	1.005	/			
Ø0.484	+0.005/-0.001	.485	/			
1.180	+/-0.010	1.180	/			
3.150	+/-0.010	3.150	/			
3.070	+/-0.010	3.070	/			
R0.063	+/-0.010	R.063	/		R.G.	